CLAIMS

We claim:

1. A method of monitoring a passenger conveyor drive assembly (40) having at least one drive member (42) that follows a path around a plurality of wheels (44, 46), comprising:

determining whether selected wheels (44, 46) rotate at the same speed.

2. The method of claim 1, including activating a brake (62) responsive to determining that the wheels (44, 46) rotate at a different speed.

3. The method of claim 1, wherein there are at least two drive members (42) each associated with a deflection wheel (46) and the method includes determining whether the deflection wheels (46) rotate at the same speed.

4. The method of claim 1, wherein there are two drive members (42) each associated with a drive wheel (44) and a deflection wheel (46), the drive wheels (44) synchronously rotating, and the method includes determining whether either deflection wheel (46) rotates at the same speed as the drive wheels (44).

5. The method of claim 1, wherein the member (42) is associated with a drive wheel (44) and a deflection wheel (46) and the method includes determining whether the deflection wheel (46) rotates at the same speed as the drive wheel (44).

6. The method of claim 1, including associating a rotating member (52, 56) with each of the selected wheels (44, 46) such that the rotating members (52, 56) rotate at the same speed as the associated wheels (44, 46), and determining when at least one of the rotating members (52, 56) moves axially responsive to relative rotation between the selected wheels.

7. A passenger conveyor drive assembly (40), comprising:

a plurality of drive wheels (44);

a corresponding plurality of deflection wheels (46);

a drive member (42) associated with each drive wheel (44), each drive member following a path around the associated drive wheel (44) and at least one corresponding deflection wheel (46); and

a monitor device (50) associated with selected ones of the wheels (44, 46) that provides an indication of relative rotation between the selected wheels (44, 46).

8. The assembly of claim 7, wherein the monitor device (50) includes a first rotating member (52) coupled to rotate with a first one of the selected wheels (44, 46) and a second rotating member (56) coupled to rotate with a second one of the selected wheels (44, 46), the first and second rotating members (52, 56) moving relative to each other responsive to relative rotation between the selected wheels (44, 46).

9. The assembly of claim 8, wherein the first and second rotating members (52, 56) comprise bushings having engaging faces (64, 66) that cooperate to cause axial movement of at least one of the bushings responsive to relative rotation between the bushings.

10. The assembly of claim 9, wherein the engaging faces (64, 66) comprise surfaces aligned at least partially at an oblique angle relative to an axis about which the bushings (52) rotate.

11. The assembly of claim 8, wherein one of the rotating members (52, 56) is axially fixed and the other rotating member (52, 56) is biased into a first axial position and wherein relative rotation between the rotating members (52, 56) causes the other rotating member (52, 56) to move axially against the bias.

12. The assembly of claim 11, including a spring (68) that biases the other rotating member (52, 56) into the first axial position.

13. The assembly of claim 8, including a brake actuator (60) associated with at least one of the rotating members, the actuator being operative responsive to axial movement of at least one of the rotating members (52, 56).

14. The assembly of claim 13, wherein the brake actuator (60) includes a follower (72) that follows axial movement of the at least one rotating member (52, 56) and wherein movement of the follower triggers the brake actuator (60).

15. The assembly of claim 8, wherein the selected wheels are two deflection wheels (46) and wherein one of the selected deflection wheels (46) rotates with the first rotating member (52) and the second rotating member (56) rotates with the other selected deflection wheel (46).

16. The assembly of claim 8, wherein the selected wheels are a drive wheel (44) and a deflection wheel (46) and wherein the first rotating member (56) rotates at the same speed as the drive wheel and the second rotating member (52) rotates at the same speed as the selected deflection wheel (46).

17. The assembly of claim 16, including two selected deflection wheels (46) that each have an associated second rotating member (52).

18. The assembly of claim 7, wherein the selected wheels are deflection wheels (46) each associated with a separate drive member (42).

19. The assembly of claim 7, wherein the selected wheels are a drive wheel (44) and a deflection wheel (46).

20. A device (50) for monitoring relative rotations between wheels (44, 46) in a passenger conveyor drive assembly (40) , comprising:

a first rotating member (52) for rotating at the same speed as a first selected wheel (44, 46);

a second rotating member (56) for rotating at the same speed as a second selected wheel (44, 46), the first and second rotating members (52, 56) changing position relative to each other responsive to relative rotation between the wheels (44, 46).

21. The assembly of claim 20, wherein the first and second rotating members (52, 56) comprise bushings having engaging faces (64, 66) that cooperate to cause axial movement of at least one of the bushings responsive to relative rotation between the bushings.

22. The assembly of claim 21, wherein the engaging faces (64, 66) comprise surfaces aligned at least partially at an oblique angle relative to an axis about which the bushings rotate.

23. The assembly of claim 20, wherein one of the rotating members (52, 56) is axially fixed and the other rotating member (52, 56) is biased into a first axial position and wherein relative rotation between the rotating members (52, 56) causes the other rotating member (52, 56) to move axially against the bias.